

IN THE CLAIMS

1. A method for multiplexing digital data, wherein a packet of digital data, said packet of digital data having a length, a front end and a rear, is simultaneously sent from front to rear and from rear to front.
2. The method according to claim 1, wherein a first device sends the data from front to rear to a third device, and a second device sends the same data from rear to front to the third device.
3. The method according to claim 2, wherein the third device places the data in a data buffer the size of the packet, and sends a signal to the first and second device when either the buffer is full, or stops sending confirmations until the buffer is full.
4. The method according to claim 1, wherein a first device sends data from front to rear to a second device, and simultaneously backwards to a third device.
5. The method according to claim 4, wherein the second device and third device immediately at receipt forward the data they received from the first device to each other.
6. The method according to claim 5, wherein the second and third device have been provided with a data buffer the size of the packet, wherein the received data are placed in the data buffer and the first and second device send a signal to the first device when the respective data buffer is full.
7. A method for multiplexing digital data, wherein a packet of digital data having a length, a beginning and an end, is simultaneously sent from the beginning of the packet towards the end and from the end towards the beginning.
8. The method according to claim 7, wherein a first device sends the data from beginning towards the end to a third device, and a second device sends the same data from the end towards the beginning to the third device.
9. The method according to claim 8, wherein the third device places the data in a data buffer the size of the packet, and sends a signal to the first and second device when either the buffer is full, or stops sending confirmations until the buffer is full.

10. The method according to claim 7, wherein a first device sends data from the beginning to the end to a second device, and simultaneously backwards to a third device.
11. The method according to claim 10, wherein the second device and third device immediately at receipt forward the data they received from the first device to each other.
12. The method according to claim 11, wherein the second and third device have been provided with a data buffer the size of the packet, wherein the received data are placed in the data buffer and the first and second device send a signal to the first device when the respective data buffer is full.
13. A method for multiplexing digital data, wherein simultaneously a packet of digital data is sent by electronical or optical means and the same packet of digital data is sent backwards by electronical or optical means.
14. The method according to claim 13, wherein a first device sends the packet of digital data from front to rear to a third device, and a second device sends the same data backwards to the third device.
15. The method according to claim 14, wherein the third device places the data in a data buffer the size of the packet of digital data, and sends a signal to the first and second device when either the buffer is full, or stops sending confirmations until the buffer is full.
16. The method according to claim 13, wherein a first device sends data from front to rear to a second device, and simultaneously backwards to a third device.
17. The method according to claim 16, wherein the second device and third device immediately at receipt forward the data they received from the first device to each other.
18. The method according to claim 17, wherein the second and third device have been provided with a data buffer the size of the packet, wherein the received data are placed in the data buffer and the first and second device send a signal to the first device when the respective data buffer is full.

19. A method for sending a data packet to a first device in an ad-hoc data network of devices, wherein the devices have been provided with a data processing unit, a data buffer and software having receiving routines for receiving data packets from at least two transmitting devices in the data network, wherein at least two other devices in the network simultaneously send data sub-packets together making up said data packet, at least one device starting with the front sub-packet and sequentially taking the next sub-packet, and at least one device starting with the last sub-packet and sequentially taking a previous one, to said first device, which first device adds together these data sub-packets to form said data packet.

20. The method according to claim 19, wherein the software has further been provided with transmission routines for transmitting data packets, received from the transmitting device or devices in the data network to at least one receiving device that is connected to the data network, independent of the transmitting device or devices.

21. A method for receiving digital data, wherein a device provided with data storage means creates a data buffer in the data storage means the size of a packet of digital data, and simultaneously receives a first stream of digital data and receives a second stream of digital data, wherein the device fills the data buffer from front to rear with the first stream of digital data and fills the data buffer from rear to front with the second stream of digital data, wherein said first and second streams make up a single packet, and said first stream is sent from front to rear, and said second stream is sent from rear to front.

22. The method according to claim 21, wherein the device informs the source or sources of the streams of digital data when a data buffer is full.

23. A method for sending digital data, wherein a device provided with data storage means creates a data buffer in the data storage means, stores digital data in the data buffer, and from the front of the data buffer and the rear of the data buffer sends the digital data in two streams, wherein a first stream is sent from front to rear, and a second stream is sent from rear to front.

24. The method according to claim 23, wherein the device stops sending after receipt of a signal.

25. Software for sending a packet of digital data, comprising a first transmission routine for sending a first stream of digital data starting from the front of the packet of digital data and a second transmission routine for sending a second stream of digital data starting from the end of the packet of digital data, wherein said first stream and said second stream are included in said packet.
26. Software for receiving a packet of digital data, comprising a first receiving routine for receiving a first stream of digital data and a second receiving routine for simultaneously receiving a second stream of digital data, and a first storing routine for storing the first stream of digital data in a memory starting at the front of the memory and filling the memory towards the end, and a second storing routine for storing the second stream of digital data starting at the end of the memory and filling the memory towards the front, and a stop routine for ending the receiving of digital data when the memory is full, wherein said first and second streams make up a single packet, and said first stream is sent from front to rear, and said second stream is sent from rear to front.
27. An apparatus for sending a packet of digital data, comprising memory means for storing the packet of digital data, first sending means for sending a first stream of digital data, starting at the front of the memory means and second sending means for sending a second stream of digital data, starting at the end of the memory means.
28. An apparatus for receiving a packet of digital data, comprising memory means for storing the packet of digital data, first receiving means for receiving a first stream of digital data, and storing it in said memory means, starting from the front of the memory means, and second receiving means for receiving a second stream of digital data, and storing it in said memory means, starting from the back of the memory means, wherein said first and second streams make up a single packet, and said first stream is sent from front to rear, and said second stream is sent from rear to front.
29. Data carrier, provided with software according to any one of claims 25 or 26.
30. Device provided with software according to claim 25 or 26.

31. A method for multiplexing digital data, including a packet of digital data having a length, a front and a rear, said packet having a first stream and a second stream, comprising:

sending said first and second streams simultaneously, said first stream sent from said front to rear and said second stream sent from said rear to front, where one of said first stream and said second stream is continued to be sent if one of said first and second streams fails or is stalled,

sending a second packet,
using said second packet to validate said first packet.